



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,591	11/10/2003	Jeong-hwan Lee	SWO-0002	6244
23413	7590	06/01/2006	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			HAN, JASON	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/705,591	Applicant(s) LEE ET AL.	
	Examiner Jason M. Han	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to Claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

The following rejected claims have been construed in light of the specification, but rendered the broadest interpretation as stated by the Applicant within the context of the claim language [MPEP 2111].

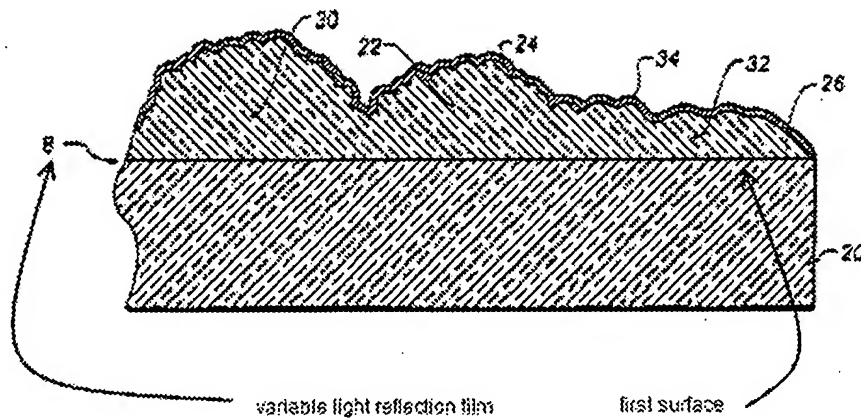
Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 5, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaminsky et al. (U.S. Patent 6898012 B2).
3. With regards to Claim 1, Kaminsky discloses a reflector including:
 - A base film [Figure 1: (20)];
 - A protrusion [Figure 1: (22, 24, 30, 32)] provided on a first surface, whereby the first surface is substantially flat; and



- A reflecting layer [Figure 1: (34)] deposited on the first surface of the base film and the protrusion, for reflecting light generated from a lamp [Figure 2: (18)].
4. With regards to Claim 2, Kaminsky discloses the protrusion being made of elastic material [Column 14, Lines 15-18].
 5. With regards to Claim 3, Kaminsky discloses the protrusion being made of silicon resin [Column 21, Line 15].
 6. With regards to Claim 5, Kaminsky discloses the reflector including a plurality of the protrusions having a dotted pattern [Figure 4].
 7. With regards to Claim 9, Kaminsky discloses a light guide plate [Figure 2: (2)] disposed on the reflector; and a lamp unit [Figure 2: (18)] disposed at a side of the light guide plate, for emitting light into the light guide plate.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 2875

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminsky et al. (U.S. Patent 6898012 B2) as applied to Claim 1 above, and further in view of Sinkoff (U.S. Patent 6724529 B2).

Kaminsky discloses the claimed invention as cited above, but does not specifically teach the protrusion being embossed on the base film.

Sinkoff teaches a reflecting apparatus including:

- A base film [Figures 2-4: (60)];
- A protrusion [Figures 2-4: (M)] provided on a first surface of the base film; and
- A reflecting layer [Figures 2-4: (50)] deposited on the base film and the protrusion, for reflecting light generated from a lamp,
- Whereby the protrusion [Figures 2-4: (M)] being embossed on the base film [Column 3, Lines 24-27].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the reflector of Kaminsky to incorporate the embossment of the protrusions onto the base film, as principally taught by Sinkoff, in order to provide a simple and efficient manufacturing of the protrusions onto the base film.

9. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminsky et al. (U.S. Patent 6898012 B2) as applied to Claim 1 above, and further in view of Yang et al. (U.S. Patent 6151089).

Kaminsky discloses the claimed invention as cited above, but does not specifically teach the reflector including a deformation prevention part for preventing the

base film from being deformed, whereby the deformation prevention part is formed on a second surface of the base film opposite to the first surface (re: Claim 6); wherein the deformation prevention part is embossed on the second surface of the base film (re: Claim 7); nor teaches the reflector including a plurality of the deformation prevention parts having a dotted pattern (re: Claim 8).

Yang teaches a reflector [Figure 2: (8)] including a base film [Figure 2: (15)], whereby a plurality of deformation prevention parts [Figure 2: (12)] in the form of a dotted pattern is provided/embossed on a second surface of the base film opposite to a first surface so as to prevent the film from being deformed [Column 6, Lines 13-40].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the reflector of Kaminsky to incorporate the deformation prevention parts of Yang in order to provide further protection to the shape of the reflecting film, as well as the base film from deforming.

10. Claims 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminsky et al. (U.S. Patent 6898012 B2) as applied to Claim 9 above, and further in view of Hira et al. (U.S. Patent 5961198).

11. With regard to Claims 10 and 13-14, Kaminsky discloses the claimed invention as cited above, but does not specifically teach a plurality of prism teeth formed on a surface of the light guide plate facing the reflector (re: Claim 10), an optical sheet layer disposed on the light guide plate and having a plurality of prism teeth on a surface thereof facing the light guide plate (re: Claim 13), wherein the prism teeth of the light

Art Unit: 2875

guide plate are arranged in a direction across the prism teeth of the optical sheet layer (re: Claim 14).

Hira teaches a plurality of prism teeth [Figures 2, 5, 12: (10)] being formed on a surface of a light guide plate facing a reflector [Figures 5, 10: (11)], an optical sheet layer being disposed on the light guide plate and having a plurality of prism teeth on a surface thereof facing the light guide plate [Figure 3: (4, 5)] Column 3, Lines 21-28], wherein the prism teeth of the light guide plate [Figures 9-11: (10)] being arranged in a direction across the prism teeth of the optical sheet layer [Column 3, Lines 21-28, 44-49].

It would obvious to one ordinarily skilled in the art at the time of invention to modify the backlight assembly of Kaminsky to incorporate the light guide plate with prism teeth arranged in a direction across a plurality of prism teeth on an optical sheet layer, as taught by Hira, in order to permit a desired optical effect (reflectance) on the illumination, and thus, increase light efficiency of the backlight.

12. With regards to Claim 11, Kaminsky in view of Hira discloses the claimed invention as cited above, but does not specifically teach the protrusion being substantially circular, spherical or cylindrical shaped such that the protrusion of the reflector has a diameter smaller than a pitch of the prism teeth of the light guide plate.

However, it would have been obvious to one ordinarily skilled in the art at the time of invention to modify the protrusion of Kaminsky in view of Hira, which is taught as being circular or spherical in shape [see Kaminsky: Column 7, Lines 20-30], to have a diameter smaller than a pitch of the prism teeth of the light guide in order to affect the

Art Unit: 2875

illumination to a desired preference. It has been held to be within the general skill of a worker that mere change of form or shape of an invention involves only routine skill in the art. *Span-Deck Inc. c. Fab-Con, Inc.* (CA 8, 1982) 215USPQ 835, and a change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). Kaminsky corroborates, "The plurality of lenses of all different sizes and shapes are formed on top of one another to create a complex lens feature resembling a cauliflower" [Column 7, Lines 20-24].

13. With regards to Claim 12, Kaminsky in view of Hira discloses the claimed invention as cited above, but does not specifically teach an interval between the adjacent protrusions on the base film varying in inverse proportion to a distance between the protrusions and the lamp unit.

However, it would have been obvious to one ordinarily skilled in the art at the time of invention to rearrange the adjacent protrusions on the base film to vary in inverse proportion to a distance between the protrusions and the lamp, whereby it is commonly known that reflecting dots on the bottom of a light guide are often spread in a similar manner to produce a more uniform illumination. It has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70.

14. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminsky et al. (U.S. Patent 6898012 B2) as applied to Claim 9 above, and further in view of Yang et al. (U.S. Patent 6151089).

Kaminsky discloses the claimed invention as cited above, but does not specifically teach the reflector including a deformation prevention part for preventing the base film from being deformed, whereby the deformation prevention part is formed on a second surface of the base film opposite to the first surface (re: Claim 15).

Yang teaches a reflector [Figure 2: (8)] including a base film [Figure 2: (15)], whereby a plurality of deformation prevention parts [Figure 2: (12)] in the form of a dotted pattern is provided/embossed on a second surface of the base film opposite to a first surface so as to prevent the film from being deformed [Column 6, Lines 13-40].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the reflector of Kaminsky to incorporate the deformation prevention parts of Yang in order to provide further protection to the shape of the reflecting film, as well as the base film from deforming.

15. Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminsky et al. (U.S. Patent 6898012 B2) as applied to Claim 9 above, and further in view of Hira et al. (U.S. Patent 5961198).

16. With regard to Claims 16 and 19-20, Kaminsky discloses the claimed invention as cited above, but does not specifically teach a plurality of prism teeth formed on a surface of the light guide plate facing the reflector (re: Claim 16), an optical sheet layer disposed on the light guide plate and having a plurality of prism teeth on a surface thereof facing the light guide plate (re: Claim 19), wherein the prism teeth of the light guide plate are arranged in a direction across the prism teeth of the optical sheet layer (re: Claim 20).

Hira teaches a plurality of prism teeth [Figures 2, 5, 12: (10)] being formed on a surface of a light guide plate facing a reflector [Figures 5, 10: (11)], an optical sheet layer being disposed on the light guide plate and having a plurality of prism teeth on a surface thereof facing the light guide plate [Figure 3: (4, 5)] Column 3, Lines 21-28], wherein the prism teeth of the light guide plate [Figures 9-11: (10)] being arranged in a direction across the prism teeth of the optical sheet layer [Column 3, Lines 21-28, 44-49].

It would obvious to one ordinarily skilled in the art at the time of invention to modify the backlight assembly of Kaminsky to incorporate the light guide plate with prism teeth arranged in a direction across a plurality of prism teeth on an optical sheet layer, as taught by Hira, in order to permit a desired optical effect (reflectance) on the illumination, and thus, increase light efficiency of the backlight.

17. With regards to Claim 17, Kaminsky in view of Hira discloses the claimed invention as cited above, but does not specifically teach the protrusion being substantially circular, spherical or cylindrical shaped such that the protrusion of the reflector has a diameter smaller than a pitch of the prism teeth of the light guide plate.

However, it would have been obvious to one ordinarily skilled in the art at the time of invention to modify the protrusion of Kaminsky in view of Hira, which is taught as being circular or spherical in shape [see Kaminsky: Column 7, Lines 20-30], to have a diameter smaller than a pitch of the prism teeth of the light guide in order to affect the illumination to a desired preference. It has been held to be within the general skill of a worker that mere change of form or shape of an invention involves only routine skill in

Art Unit: 2875

the art. *Span-Deck Inc. c. Fab-Con, Inc.* (CA 8, 1982) 215USPQ 835, and a change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). Kaminsky corroborates, "The plurality of lenses of all different sizes and shapes are formed on top of one another to create a complex lens feature resembling a cauliflower" [Column 7, Lines 20-24].

18. With regards to Claim 18, Kaminsky in view of Hira discloses the claimed invention as cited above, but does not specifically teach an interval between the adjacent protrusions on the base film varying in inverse proportion to a distance between the protrusions and the lamp unit.

However, it would have been obvious to one ordinarily skilled in the art at the time of invention to rearrange the adjacent protrusions on the base film to vary in inverse proportion to a distance between the protrusions and the lamp, whereby it is commonly known that reflecting dots on the bottom of a light guide are often spread in a similar manner to produce a more uniform illumination. It has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2875

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

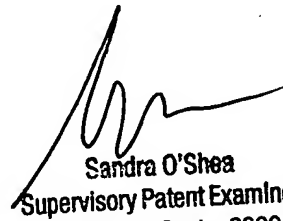
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2875

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason M Han
Examiner
Art Unit 2875

JMH (5/25/2006)



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800